



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF  
SE-5J

October 6, 2008

Steve Garbaciak, Jr. P.E.  
Vice-President  
ARCADIS  
30 West Monroe St., Suite 1710  
Chicago, Illinois 60448-2404

US EPA RECORDS CENTER REGION 5



Re: Modification to Former Plainwell Impoundment Area Time-Critical Removal  
Action Design Report to Address Underground Utility Lines

Dear Steve:

The purpose of this letter is to document a modification to the Former Plainwell Impoundment Area Time-Critical Removal Action (TCRA) Design Report, dated February 2007 (Work Plan) to address excavation issues associated with the underground utility lines at the Plainwell Impoundment Area. EPA understands that the Kalamazoo River Study Group (KRSRG) and the utility companies owning the pipes which underlay the river bed have concluded that the excavation originally proposed in the TCRA Design Report may present significant safety issues. After careful consideration, U.S. EPA agrees.

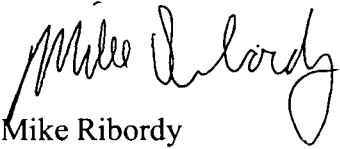
The modification allows for an exclusion area of 30 feet on either side of the pipelines in which underwater sediments would not be dug. The basis for this 30 feet exclusion area is contained in an August 12, 2008, memorandum prepared by ARCADIS, on behalf of the Kalamazoo River Study Group (KRSRG) (Attachment 1), which concludes that it would not be possible to safely dig underwater to remove sediments within 30 feet of the gas lines. Pursuant to Paragraph 74 of the Allied Paper/Portage Creek/Kalamazoo River Superfund Site Administrative Settlement Agreement and Order on Consent for Removal Action (Docket No. V-W-07-863), the United States Environmental Protection Agency (U.S. EPA) approves the modification to the Work Plan.

The 30 feet exclusion zone pertains only to sediments currently underwater. The 30 feet exclusion zone may only be temporary. Based on conversations with ARCADIS representatives, U.S. EPA understands that the area of the pipeline crossing will be revisited towards the end of the construction season when it is anticipated that the river

elevation will be significantly lower. It is anticipated that at that time, additional sediment will be exposed and may be able to be safely removed. I understand that when the river level drops and further analysis is conducted, you will contact me with a proposal to modify the Work Plan again to safely remove additional sediment surrounding the pipelines.

If you have any questions or concerns regarding this letter, please do not hesitate to contact me at (312) 886-4592.

Sincerely,

A handwritten signature in black ink, appearing to read "Mike Ribordy". The signature is fluid and cursive, with the first name "Mike" being more prominent than the last name "Ribordy".

Mike Ribordy  
On-Scene Coordinator  
U.S. Environmental Protection Agency

Attachment

cc: Paul Buckholtz, MDEQ  
Jim Saric, USEPA  
Eileen Furey, USEPA



Mr. Michael Ribordy  
On-Scene Coordinator  
USEPA Region 5  
77 West Jackson Boulevard (SE-5J)  
Chicago, IL 60604-3590

ARCADIS  
30 W Monroe St  
Suite 1710  
Chicago  
Illinois 60603  
Tel 312 332 4937  
Fax 312 332 4434

Subject

Technical Memorandum – Underground Utility Lines at the Allied Paper, Inc /Portage Creek/Kalamazoo River Superfund Site Time-Critical Removal Action (TCRA)

INDUSTRIAL

Dear Mr. Ribordy:

Date

August 12, 2008

On behalf of the Kalamazoo River Study Group (KRSG), ARCADIS has prepared this technical memorandum to detail the activities performed, and alternative approaches considered, while pursuing the excavation of soil and sediment located in the vicinity of two underground natural gas utility pipelines located under the Kalamazoo River

Contact

Steve Garbaciak

Phone

312.332.4937 ext. 12

**Background**

Email

steve.garbaciak@  
arcadis-us.com

Consumers Energy operates a 20-inch diameter stainless steel natural gas pipeline near river station 21+00 of the Kalamazoo River. This pipeline is located in TCRA Removal Areas 10A, 10B, and Mid-Channel Area C. Michigan Gas Utilities (MGU) operates an 8-inch diameter stainless steel natural gas pipeline that is located approximately 60 feet west of the Consumers Energy pipeline in the same removal areas (see the attached figure). As-built drawings of the pipelines, including pipe elevations, were requested from both utility companies; however, neither company provided true as-built or reference drawings.

Our ref

B0064530.00675

**History of Discussions and Activities**

In an email dated April 2, 2008 (see attachment), Consumers Energy stated that if the KRSG could not determine the depth of the pipelines, underwater material on 30 feet of either side of the pipeline should be left in place to avoid compromising the cover maintained above the line. In a letter dated April 4, 2008 (see attachment) MGU also mandated a 30-foot buffer zone around their pipeline. Not removing the submerged material in the buffer zone would result in approximately 1,300 cubic yards of sediment originally targeted for removal being left in place.

It is important to note that utility lines located under water have been encountered at other ARCADIS sediment removal projects. Specifically, a 300-foot buffer was used to protect a fiber optic line on the Hudson River in New York, and a 50-foot buffer was used to protect buried high pressure gas (oxygen and acetylene) lines on both the Fox River in Wisconsin and on a wetlands construction project in Texas. These buffer zones are generally determined by the operators of the utility lines, and they also take into consideration the safety of the excavation equipment operators and the risk associated with interruption of the service due to compromise of the utility line.

In an effort to precisely locate the pipelines, a KRSG diving subcontractor performed an underwater ground penetrating radar (GPR) survey of the area on April 25, 2008. This survey was not capable of producing burial depth information. KRSG research indicates that technologies exist to locate underwater utilities, however these are designed for finding utilities in deeper water with lower velocities, such as a bay, and are generally not suitable for this project. No other methods for locating the depth of pipelines have been identified.

With no means to accurately determine the burial depth of the pipelines, in March of 2008, the KRSG requested that Consumers Energy and MGU temporarily shut down or reroute their pipelines to allow excavation activities to proceed as planned. However, both companies informed the KRSG that these were single feed lines and that there was no way to temporarily reroute or shut down these lines without undertaking a lengthy and expensive project to install temporary lines.

On June 18, the KRSG, USEPA, MDEQ, and MGU participated in a conference call to discuss potentially decreasing the extent of the buffer zone. MGU maintained during the conference call that a 30-foot buffer zone was necessary to maintain the integrity of the pipelines and their cover, and that the decision to dig any closer to the pipelines was up to the excavation contractor. As a result, no formal changes were made to the buffer zone. MGU informed the KRSG that they may possess additional as-built information for the pipelines. Based on the MGU description of the documents, it seems likely that the documents consist of permitting information, not information regarding the depths of the pipelines. MGU has not yet provided this information to the KRSG.

On June 19, 2008, the KRSG received an as-built drawing for the 20-inch pipeline from Consumers Energy. The drawing was created in 1967 and includes the depth of the pipeline below the river surface. However, the drawing does not include a standard elevation frame of reference, so the information cannot be reliably applied to current river conditions. The drawing references a minimum 60-inch of cover of

sediment above the pipeline. The drawing did not include any other relevant information concerning the elevation frame of reference.

### **Dredging Alternatives Considered**

**Diver Assisted Dredging.** According to the diving subcontractor that performed the underwater GPR survey for the KRSG, velocities in the river at the pipeline location are high and visibility is low. Daily velocity measurements collected in the area indicate the average velocity is approximately 1.5 feet per second (ft/s), with maximum velocities near 4 ft/s. Although it is possible to place divers in the river to conduct sediment dredging operations (if proper safety precautions are employed), the high river velocities, low visibility, and safety precautions would reduce the productivity of diver assisted dredging. Removal rates for diver assisted dredging are much lower than the rate of excavator-based dredging, and would likely cause significant schedule delays.

**High-Vacuum Removal.** The KRSG also examined the feasibility of using a high-vacuum sediment removal technique that would include a steel pipe with a rubber bumper and underwater camera attached to the end of the excavator attachment. The rubber bumper and underwater camera would help to protect the pipelines and could eliminate the need to employ divers during dredging activities. Suction to the pipe would be provided by a vacuum truck pulling through a series of vacuum boxes (to settle out the removed materials) located on the bank.

Although sediment dredging through high-vacuum removal can be successful under some circumstances, this technique is significantly different than the mechanical dredging techniques used on the project to date. This deviation in construction approach would require a significant amount of engineering prior to implementation to ensure the approach is viable and to assess its impact on the cost and schedule of the project.

Preliminary estimates of applying the high-vacuum removal approach indicate that the cost and schedule impact would be significant. For instance, the project currently utilizes gravity drainage for sediment dewatering and a pugmill for sediment processing. Different sediment processing (e.g., filter presses) and water treatment methods (e.g., large volumes of water, multiple stage treatment) would be required for high-vacuum sediment removal, as the methods currently used on the project would not be completely compatible with sediment vacuuming. Due to the different dredging, water handling, and sediment processing techniques that would be

**ARCADIS**

Mr. Michael Ribordy  
August 12, 2008

required, the project could not be completed within the current schedule or budget if high-vacuum sediment removal is employed.

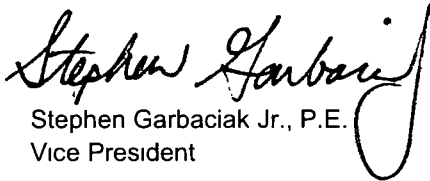
**Exclusion Area**

In accordance with the information provided above, ARCADIS' position concerning the inability to safely dig underwater within 30 feet of the gas utility lines, first presented to you through a series of telephone calls and meetings, culminating in an e-mail transmission on May 12, 2008, remains unchanged.

If you have any questions, please do not hesitate to contact me.

Sincerely,

ARCADIS



Stephen Garbaciak Jr., P.E.  
Vice President

EJH/plf

**Copies**

Samuel Borries, USEPA  
Paul Bucholtz, MDEQ  
James Saric, USEPA  
Jeff Keiser, CH2M HILL  
J. Michael Davis, Esq., Georgia-Pacific Corporation  
Mellonie Fleming, Esq., Georgia-Pacific Corporation  
David Guier, Millennium Holdings, LLC  
Suda Arakere, Millennium Holdings, LLC  
Paul Montney, P.E., Georgia-Pacific Corporation  
L. Chase Fortenberry, P.G., Georgia-Pacific Corporation  
Mark Brown, Ph.D., Georgia-Pacific Corporation  
Michael Erickson, P.E., ARCADIS







## Hritsuk, Eric

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**From:** Rickey L Mcdaniel [rlmcdaniel@cmsenergy.com]  
**Sent:** Wednesday, April 02, 2008 2:15 PM  
**To:** Hritsuk, Eric  
**Subject:** Fw: Kalamazoo River PCB Clean up

Eric,

Will the email below suffice as a statement of Consumers Energy intent regarding the requirements for the pipeline clearances and cover?

Rick McDaniel  
Measurement, Regulation & Pipeline Field Leader  
Tel: 269-337-2233  
Fax: 269-381-5129  
Mobile: 269-370-3628

----- Forwarded by Rickey L Mcdaniel/KI/Consumers/CMS on 04/02/2008 03:08 PM -----

**Timothy J Coppernoll/Pr/Consumers/CMS**

To Rickey L Mcdaniel/KI/Consumers/CMS@CMS  
cc Alan D Redding/Pr/Consumers/CMS@CMS

04/02/2008 06:41 AM

Subject Kalamazoo River PCB Clean up

Rick - Our Pipeline, Line 1800 was to be installed at a minimum depth of five feet below firm river bottom. If an accurate depth can be determined and we can maintain our cover requirements, we could allow some cover removal. If we are not certain of the pipeline depth, we will require that no soil is to be removed 30 feet either side of the pipeline.

Timothy J. Coppernoll  
Gas Transmission & Storage  
Consumers Energy Company  
1945 W. Parnall Road, P23-228  
Jackson, MI 49201

(517) 788-0998 (517) 788-5884 (FAX)  
[tjcoppernell@cmsenergy.com](mailto:tjcoppernell@cmsenergy.com)





Michigan Gas Utilities Corporation

711 Starlite Drive

Benton Harbor, MI 49022

[www.michigangasutilities.com](http://www.michigangasutilities.com)

Arcadis  
Attention: Steve Garbaciak  
31 W. Monroe  
Suite 1710  
Chicago, Illinois 60603

April 4, 2008

Dear Mr. Garbaciak

I am writing in regards to the Kalamazoo river project in the vicinity of an eight inch gas pipeline operated by Michigan Gas Utilities, which crosses the river near Plainwell Michigan. As I discussed with Eric Hritsuk, your project engineer, accurate location mapping is unavailable for the depth of our pipeline beneath the river. The project plans call for excavation of the Kalamazoo river bottom and banks at this location. This poses a significant safety concern as well as a potential for damage to our facilities. Also, once excavation has been completed, the removal of cover from the top of our facility can cause a future movement of our pipeline due to its buoyancy in relation to the water. If our pipeline floats up into the river cross section it becomes very susceptible to debris floating downstream.

This pipeline was installed utilizing directional boring technology which was relatively new at the time of installation. It operates at a pressure of 675 psig. Damage to this line could cause the release of a high volume of natural gas in a very short time which could be ignited through many sources including the excavation equipment, electrical contacts or engines in the area or even static electricity built up from the gas escaping the pipe. I would like to encourage the following procedures be followed when working in this vicinity.

- Just prior to excavation, MGU will utilize pipeline locating equipment to mark our location on the banks of the river in response to a Miss Dig order which you create.
- Arcadis will utilize best efforts to verify our main location and depth in the river channel prior to any excavation. According to Consumers Energy you may have a diver in the water to accomplish this task for their facilities which would be an excellent idea for MGU's facilities also.
- As the river excavation proceeds, no soil removal will occur within 30 feet of our facilities nor will excavation occur between the existing Consumers Energy pipeline and our pipeline.





Michigan Gas Utilities Corporation

711 Starlite Drive

Benton Harbor, MI 49022

[www.michigangasutilities.com](http://www.michigangasutilities.com)

- During all excavation within the proximity of our facilities MGU will have an inspector on site in order to quickly react to any abnormal operating conditions that arise. MGU will locate and verify effective operation of safety shut down valves for this segment of pipeline prior to work in the area.

These recommendations will provide for the safety of your crews and the public, protection of our facilities and assurance for uninterrupted natural gas delivery to the Otsego- Allegan region during the clean up project. Your point of contact in the local operations office will be Craig Barragry who can be reached at 269-692-6352. Craig will arrange for the inspectors to be on the work site when required. I can be reached at 269-927-5558.

Please call me with any questions on this matter.

Sincerely,

William H Muller  
Senior Engineer  
Michigan Gas Utilities

P.C.: C. Barragry  
B. Watkins  
C. Hauska